

Alpine Pedestrian Area Plan



**Prepared for County of San Diego
Department of Planning and Land Use**

**By RBF Consulting
San Diego, Ca**

April 2010

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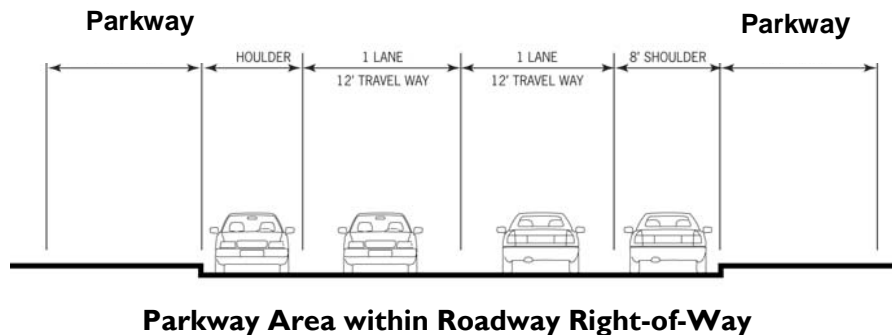
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I. INTRODUCTION

The Alpine Pedestrian Area Plan is part of the County of San Diego Pedestrian Master Plan (PMP), a project prepared for the County's Department of Planning and Land Use (DPLU) and funded by a grant from the San Diego Association of Governments (SANDAG).

The PMP's first phase was to prepare a Pedestrian "Toolbox" that contains guidelines and recommended solutions to improve or enhance the pedestrian environment within the public right-of-way. The document supports the objectives of the community development model stated in the County's General Plan, which designates densities, land uses, and roadway classifications based on the characteristics of the area.

The Pedestrian Toolbox focuses primarily on the Parkway section of public streets -- defined as the area between the curb, or edge of travel lane / shoulder, and the property line. It also addresses other roadway components that directly affect the pedestrian environment. Separate Toolbox sections include the Parkway Zone, Walkability, Intersections, and Traffic Calming.



Parkway zone improvements that benefit pedestrians include adequate curb and gutter for the context; street trees or landscaping to buffer pedestrians from adjacent traffic and provide shade; and in some cases, street furniture and public art for comfort and interest.

Walkability improvements are intended to connect various destinations, such as schools, parks, library, and shopping centers, and improve the pedestrian environment. They include clear Americans with Disabilities Act (ADA) routes, curb ramps at intersections, a sidewalk width that is appropriate for the street type, and well-defined pedestrian crossings. Also included are transit stop improvements that make taking transit more comfortable, such as a bench, shade, and shelter; and in appropriate locations, midblock crossings that typically include signage and flashing lights for increased visibility.

Intersection improvements are intended to reduce pedestrian-automobile conflicts, and to improve pedestrian visibility to motorists. Solutions include providing clearly marked crosswalks; reducing pedestrian crossing distances or providing enough time to cross the street; and not allowing "free" right turn movements, where traffic does not stop before turning.

Traffic calming describes physical changes to the roadway that are intended to reduce traffic speeds -- typically done where posted speed limits are low and traffic should move slowly, such as along school routes, residential neighborhoods, or walkable commercial areas with many pedestrians. Examples include raised medians, curb extensions that narrow the road, and traffic circles that make vehicles deviate from a straight line down the road.

The Pedestrian Master Plan's second phase was to prepare pedestrian area plans in five communities and look at the existing pedestrian conditions, identify deficiencies, and recommend solutions from the Pedestrian Toolbox. As more pedestrian area plans are done in additional unincorporated communities, they collectively will form the Pedestrian Master Plan for the County of San Diego.

A well-designed pedestrian environment that is suitable for the intended users is critical to maintain safety and encourage pedestrian activity regardless of the surrounding land uses.

Pedestrians represent a wide range of our population, including children walking to and from school, teens visiting friends, adults on errands, and people who walk for recreation or exercise.



Pedestrians also include people with disabilities using walkers, wheelchairs or other assistance devices as well as transit users who walk between their destinations and transit stops.



II. PROJECT PROCESS

The Alpine Pedestrian Area Plan examined a specific area within the Alpine community to determine existing conditions and deficiencies in the pedestrian network and to recommend potential improvements. The Alpine Community Planning Group (APG) prioritized the potential improvements and cost estimates were prepared for two high priority projects in order to compete for funding at the local, state, and federal level.

A. Document Organization

Section I. Introduction presents the project background.

Section II. Project Process describes the planning process used for the Plan, the criteria to select the study area, and the important factors underlying field observations.

Section III. Existing Pedestrian Conditions and Recommendations is organized by Zone -- a street segment or smaller area within the larger study area. Each Zone includes photographs, a table of specific pedestrian needs and solutions, and a concept map depicting solutions by location.

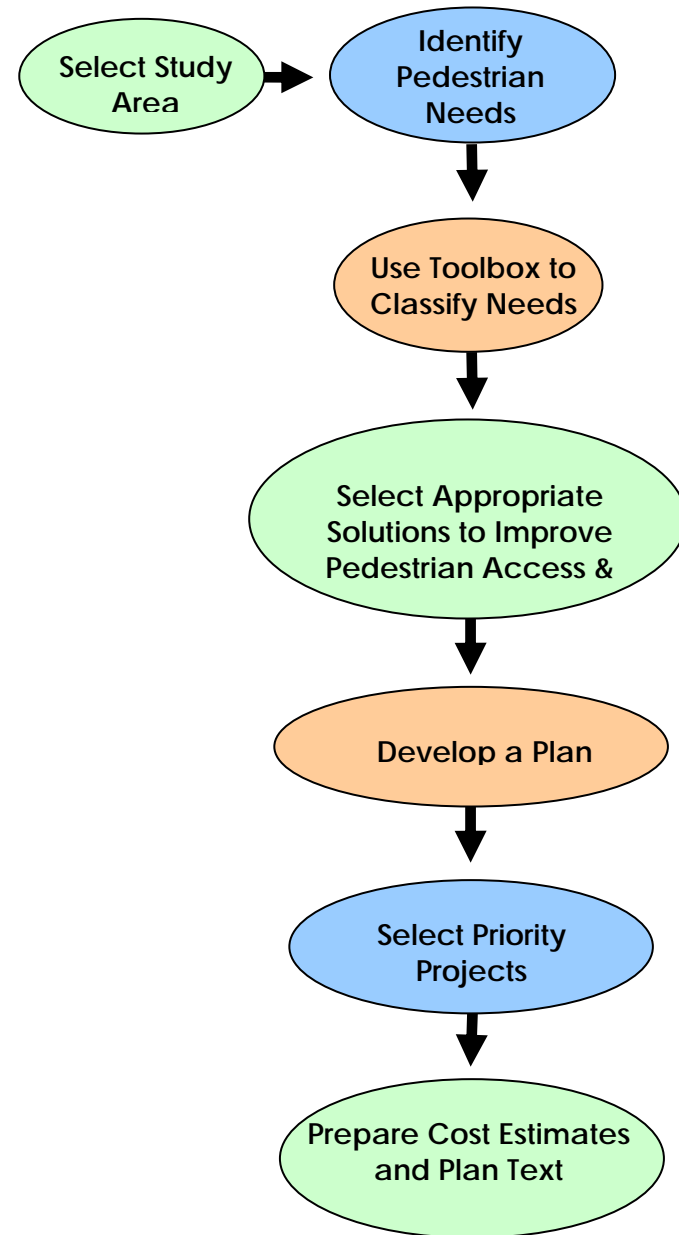
Evaluation of the effects on traffic if a particular solution is implemented is not included at this Pedestrian Area Plan level. At a later stage the effects of certain solutions would need to be studied further by a traffic engineer.

Section IV. Priority Projects includes a project description and cost estimates for two projects derived from the concept maps.

B. Process to Develop Plan

The planning process to develop the Alpine Pedestrian Area Plan was a streamlined effort, resulting in a conceptual plan intended to be a starting point for pedestrian improvements and refined over time with more detailed engineering evaluation and design. Planning steps included:

- ♦ **Select Area for Plan** -- Initial contact with the community planning or sponsor group to establish the boundary for the Pedestrian Area Plan.
- ♦ **Identify Pedestrian Needs** -- Distribution of a community input form and consultation with individuals and County Department of Public Works staff for information on existing conditions and planned improvements. Conduct field observations and measurements to identify pedestrian needs and classify needs per the Pedestrian Toolbox.
- ♦ **Select Solutions and Develop a Plan** -- Select appropriate solutions from the Pedestrian Toolbox and map them onto a conceptual plan. Present the findings and recommendations for pedestrian improvements to the community planning or sponsor group.
- ♦ **Select Priority Projects** -- Community planning or sponsor group considers the recommendations and selects priority projects.
- ♦ **Prepare Study and Cost Estimates** -- Prepare the graphics and text for the Pedestrian Area Plan, plus the cost estimates for the two selected priority projects.



C. Plan Area Criteria

The pedestrian area plans are designated for those parts of the community with relatively high pedestrian-oriented land uses, which may include the following:

Civic – Government and public facility buildings such as county offices, libraries, courts, and recreation and community centers with high levels of pedestrian traffic.

Schools – Public and private schools that are major pedestrian destinations during school hours and may also be used after hours for community and recreational purposes.

Commercial – Pedestrian-oriented or accessible commercial districts, blocks, or small nodes, depending on the community's size. These areas either have or are planned to have a higher concentration of commercial uses, such as shopping, convenience services, eating/drinking establishments, or entertainment that generates pedestrian traffic.

Higher Density Residential – This term refers to apartment complexes, condominiums, town homes, or detached single-family homes on relatively small lots. Only higher density residential areas in close proximity to significant commercial areas, civic uses, or transit stops were considered.

Parks and Open Space – Parks and open space areas are important pedestrian activity areas and often include pathways that serve as local pedestrian routes. Only areas in close proximity to the other pedestrian-oriented land uses or transit stops were considered.

D. Field Observation Criteria

The following factors were the basis for conducting field observations.

Connectivity – Allows people to conveniently and safely walk to where they want and need to go, especially between major pedestrian activity centers, for example, a school and park. Every community should have a network of sidewalks that allows continuous safe travel between major pedestrian attractors.

Continuity – Refers to whether sidewalks or walkways already exist, are non-existent, or are discontinuous, and whether people are forced to walk on roadways or parallel informal pathways.

Accessibility and Physical Obstacles – Curb ramps should be provided at crossings for individuals, in compliance with ADA requirements. Walking surfaces should be smooth and cleared of debris. Sidewalks and walkways should not have utility poles, fire hydrants, and other pieces of infrastructure located in the center of the intended walkway. Other obstructions blocking pedestrians may be overgrown vegetation or illegal vehicular parking in the pedestrian way.

Safety – Issues related to pedestrian safety include intersection or street crossings, excessive vehicle speed, inadequate lighting, lack of signage to aid driver awareness of pedestrians, and trip hazards.

Streetscape – Street trees for shade and sidewalk furniture for resting help to create an environment both comfortable and inviting for the pedestrian.

III. EXISTING PEDESTRIAN CONDITIONS AND RECOMMENDATIONS

The unincorporated rural community of Alpine is located off Interstate 8, in the foothills of the Cuyamaca Mountains in the eastern portion of the County. The Alpine study area is characterized by local serving commercial and civic uses surrounded by primarily low-density residential. It includes parts of Alpine Boulevard, Arnold Way, and Tavern Road, where pedestrian activity is concentrated. Alpine Boulevard has two shopping centers, strip commercial, a community park, and the library. Arnold Way is mixed use with single family and higher density residential. Tavern Road has several shopping centers located between Alpine Boulevard and Arnold Way, while further south are the Joan MacQueen Middle School and Boulder Oaks Elementary School.

The Alpine study area has several commercial nodes and civic facilities that are pedestrian attractors but the pedestrian network is discontinuous, which limits pedestrian use. Sidewalks or informal walking paths are intermittent or non-existent on some road segments, which decreases connectivity for pedestrians. There are few street trees to shade pedestrians and buffer them from vehicular traffic. Tavern Road does not have paved sidewalks on the route from the town core to the elementary and middle schools. Accessibility is limited throughout the area, particularly along Alpine Boulevard and Arnold Way within the town core. There is no direct connection between the two roads so pedestrians must take a longer circuitous route to reach their destination.

Providing continuous sidewalks or walking paths to connect the community, along with other improvements to pedestrian facilities, would provide a more convenient, safe, and accessible pedestrian environment.

A. Pedestrian Area Zones

The Alpine Pedestrian Area Plan is divided up into four zones, described and shown on Figure 1.

The following information for each Zone is provided in subsequent pages:

Existing Pedestrian Needs -- A list of general pedestrian needs on major roadways, based on field observations, measurements, and input from the community planning group. Sample photographs are shown of the existing streets and pedestrian conditions. Letters on the map correspond to the photographs.

Pedestrian Needs and Toolbox Matrix -- A table providing details on more specific locations of pedestrian needs; improvement opportunities to address the issue; and classification of the recommended solutions per the County's Pedestrian Toolbox.

Pedestrian Concept Map -- A map with labels shows potential solutions to the pedestrian needs and their general location. The different colors indicate the type of improvement that is recommended from the County's Pedestrian Toolbox – Parkway Zone, Walkability, Intersection, or Traffic Calming.

Zone I

- Tavern Road between Alpine Boulevard and Arnold Way.
- Alpine Boulevard from Tavern Road to the community center.

Zone II

- Alpine Boulevard from the community center to just east of Boulders Road.
- Arnold Way from Flo Drive to just west of Olivewood Lane.

Zone III

- Alpine Boulevard from W. Victoria Drive westward for approximately 0.2 miles.
- Arnold Way from W. Victoria Drive to just west of Olivewood Lane.

Zone IV

- Tavern Road from approximately 0.7 miles south of Arnold Way and continuing southward approximately 0.5 miles.

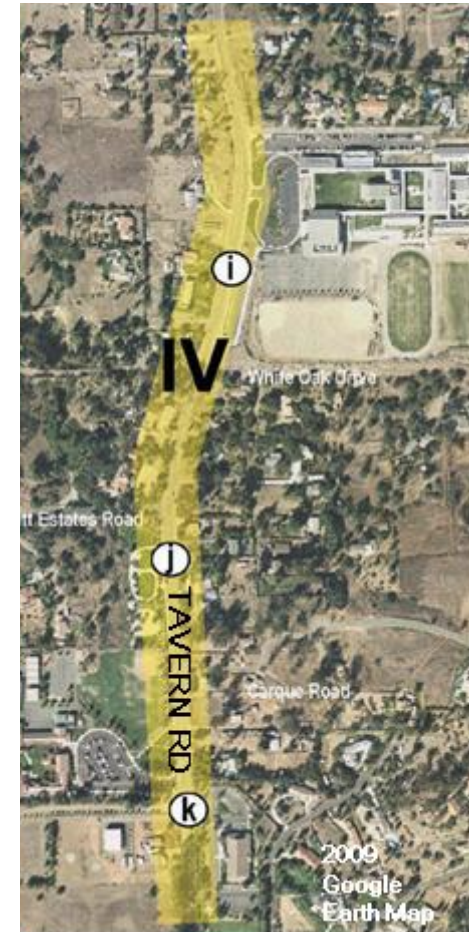


Figure 1 -- Alpine Pedestrian Area Study Zones

B. ZONE I -- PEDESTRIAN NEEDS AND RECOMMENDED IMPROVEMENTS

Existing Pedestrian Needs:

- ♦ Continuous sidewalk along Alpine Boulevard
- ♦ Pedestrian connections between Alpine Boulevard and Tavern Road
- ♦ Reasonable crossing distances at intersections
- ♦ Overhead protection at transit stops
- ♦ Separation buffer between roadway and sidewalk

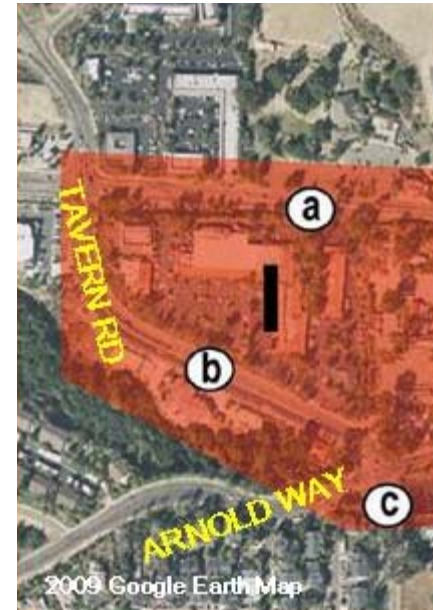
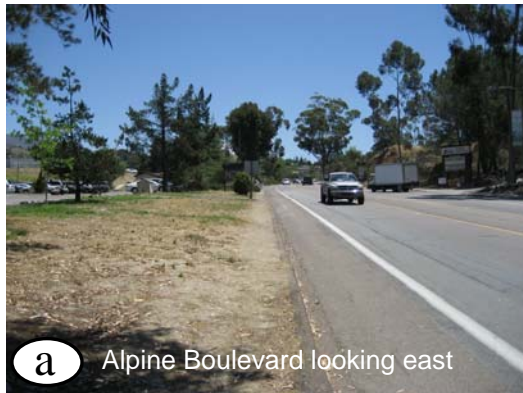


Table 1 PEDESTRIAN NEEDS AND TOOLBOX MATRIX FOR ZONE I – ALPINE







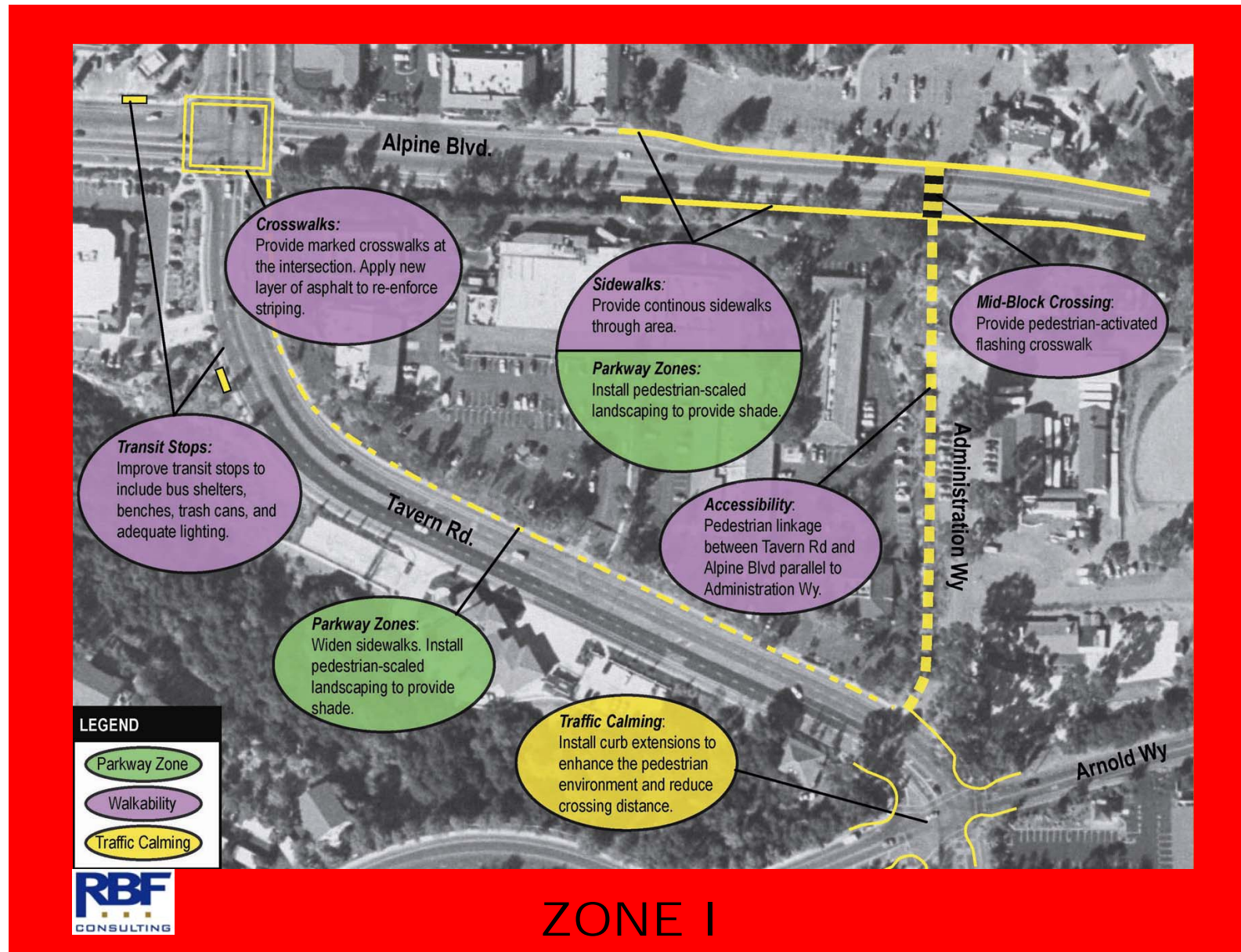
| PEDESTRIAN NEEDS AND TOOLBOX MATRIX | | | | | | |
|---|--|---|---|---|---|---|
| LOCATION | PEDESTRIAN NEEDS | IMPROVEMENT OPPORTUNITIES | TOOLBOX | | | |
| | | | Parkway Zones | Walkability | Traffic Calming | Intersection Improvements |
| Zone I | | | | | | |
| (a) Alpine Boulevard east of Tavern Road in front of Community Center | A continuous sidewalk for pedestrian access between shopping centers and community center. Landscaping around park that maintains an environment that pedestrians perceive as safe to enter. | Provide continuous sidewalks along Alpine Boulevard. Install pedestrian-scaled landscaping to provide shade and a buffer from traffic. Provide a mid-block crossing between park and shopping center. Consider a pedestrian linkage between Tavern and Alpine parallel to Administration Way in improve access in area. |  |  | | |
| (b) Tavern Road at Town Center driveway and Fire Station | Physical barriers to enhance safety between five-foot sidewalks and 82' roadway to separate pedestrians from traffic. Cars exiting from town center stop at the curb line instead of stop bar. | Widen sidewalk on north side of Tavern Road. Install pedestrian-scaled landscaping to provide shade and buffer from traffic. |  |  | | |
| (c) Tavern Road south of Arnold Way | No observed pedestrian activity. No sidewalks for much of the corridor south of Arnold Way. 50 MPH corridor approaching 25 MPH school zone may be problematic. Wide intersection crossings. | Install curb extensions at Tavern Road/Arnold Way to enhance the pedestrian environment and reduce the crossing distance. | | |  |  |

Figure 2 ZONE I PEDESTRIAN CONCEPT PLAN – ALPINE



C. ZONE II -- PEDESTRIAN NEEDS AND RECOMMENDED IMPROVEMENTS

Existing Pedestrian Needs:

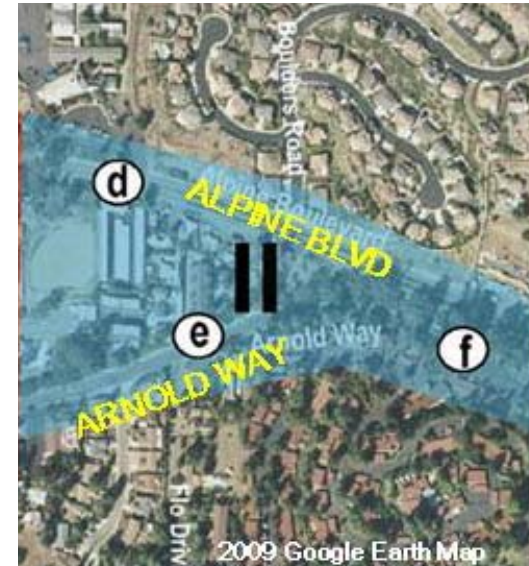
- ♦ Continuous sidewalk along Alpine Boulevard
- ♦ Pedestrian connections between Alpine Boulevard and Arnold Way
- ♦ Crossing opportunities across Alpine Boulevard
- ♦ Transit stops with shade/rain protection and benches



Alpine Boulevard
looking west



Arnold Way looking west



Arnold Way looking west

Table 2 PEDESTRIAN NEEDS AND TOOLBOX MATRIX FOR ZONE II – ALPINE





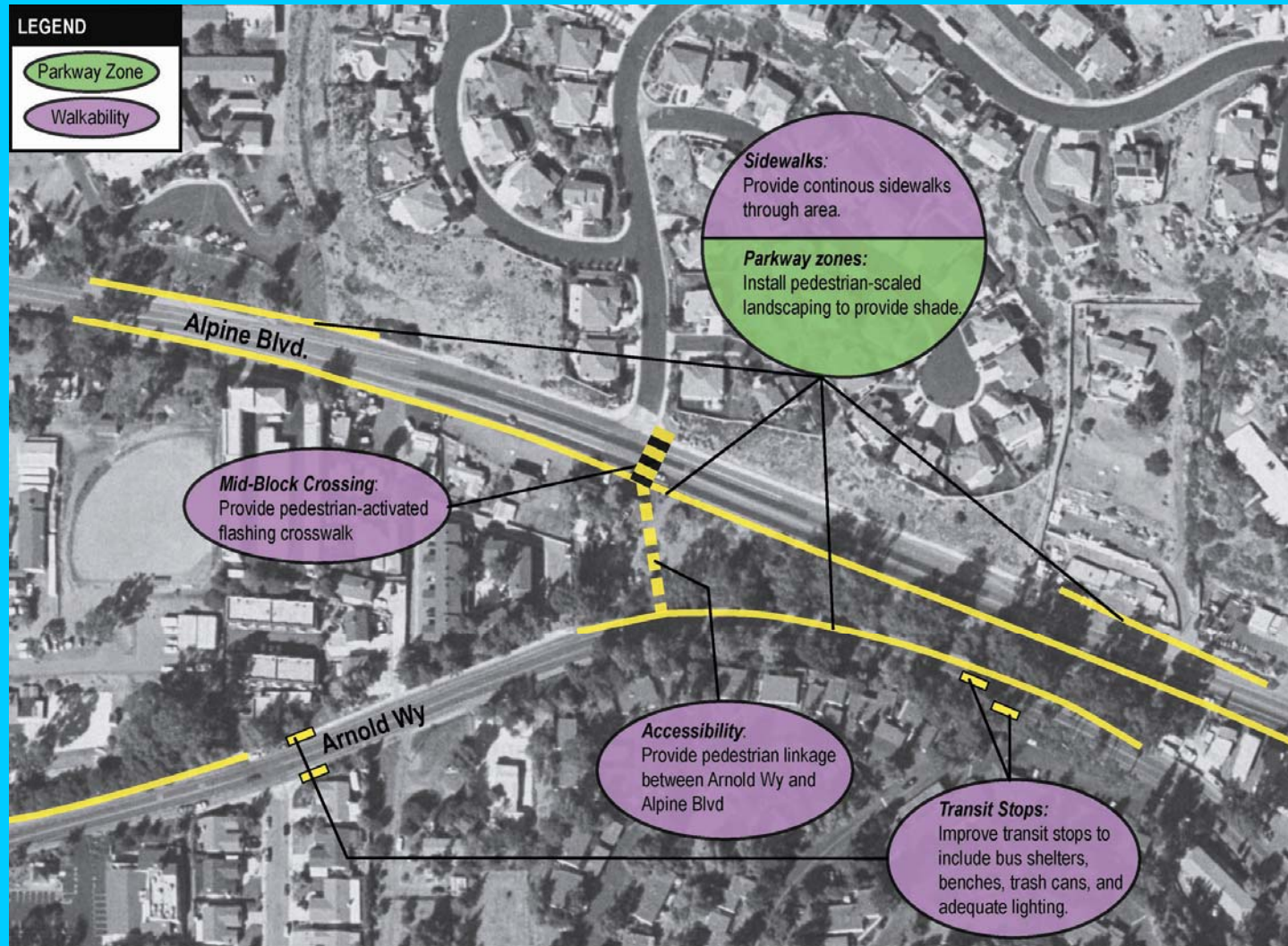
| PEDESTRIAN NEEDS AND TOOLBOX MATRIX | | | | | | |
|---|---|---|---|---|-----------------|---------------------------|
| LOCATION | PEDESTRIAN NEEDS | IMPROVEMENT OPPORTUNITIES | TOOLBOX | | | |
| | | | Parkway Zones | Walkability | Traffic Calming | Intersection Improvements |
| Zone II | | | | | | |
| (d) Alpine Boulevard east of Tavern Road in front of Alpine Elementary School | Sidewalk in front of Alpine Elementary, with established pedestrian connection between school and adjacent park, along with protection barriers between pedestrian ROW and vehicular traffic. | Provide continuous sidewalks along Alpine Boulevard. Install pedestrian-scaled landscaping to provide shade and a buffer from traffic. Provide a mid-block crossing with a pedestrian-activated flashing crosswalk. |  |  | | |
| (e) Arnold Way at Flo Drive | Continuous sidewalk on north side ends, west of Flo Drive. Pedestrian access to Alpine Blvd. | Improve transit stops to include bus shelters, benches, trash cans, and adequate lighting. Provide continuous sidewalks along north side of Arnold Way. | |  | | |
| (f) Arnold Way at Alpine Village Drive | Paved sidewalks on both sides of street, with pedestrian access to Alpine Blvd. Future improvements should consider line of sight, particularly on south side of street. | Provide continuous sidewalks along Alpine Boulevard. Install pedestrian-scaled landscaping to provide shade and a buffer from traffic. | |  | | |

Figure 3 ZONE II PEDESTRIAN CONCEPT PLAN – ALPINE



ZONE II

D. ZONE III PEDESTRIAN NEEDS AND RECOMMENDED IMPROVEMENTS

Existing Pedestrian Needs:

- ♦ Continuous sidewalk along Alpine Boulevard and Arnold Way
- ♦ Pedestrian connections between Alpine Boulevard and Arnold Way
- ♦ Safe pedestrian crossing areas at Alpine Boulevard
- ♦ Transit stops with shade/rain protection and benches
- ♦ Defined pedestrian crossing at intersection of Alpine Boulevard /Arnold Way / Victoria Drive based on criteria established in County Traffic Guidelines



Table 3 PEDESTRIAN NEEDS AND TOOLBOX MATRIX FOR ZONE III – ALPINE





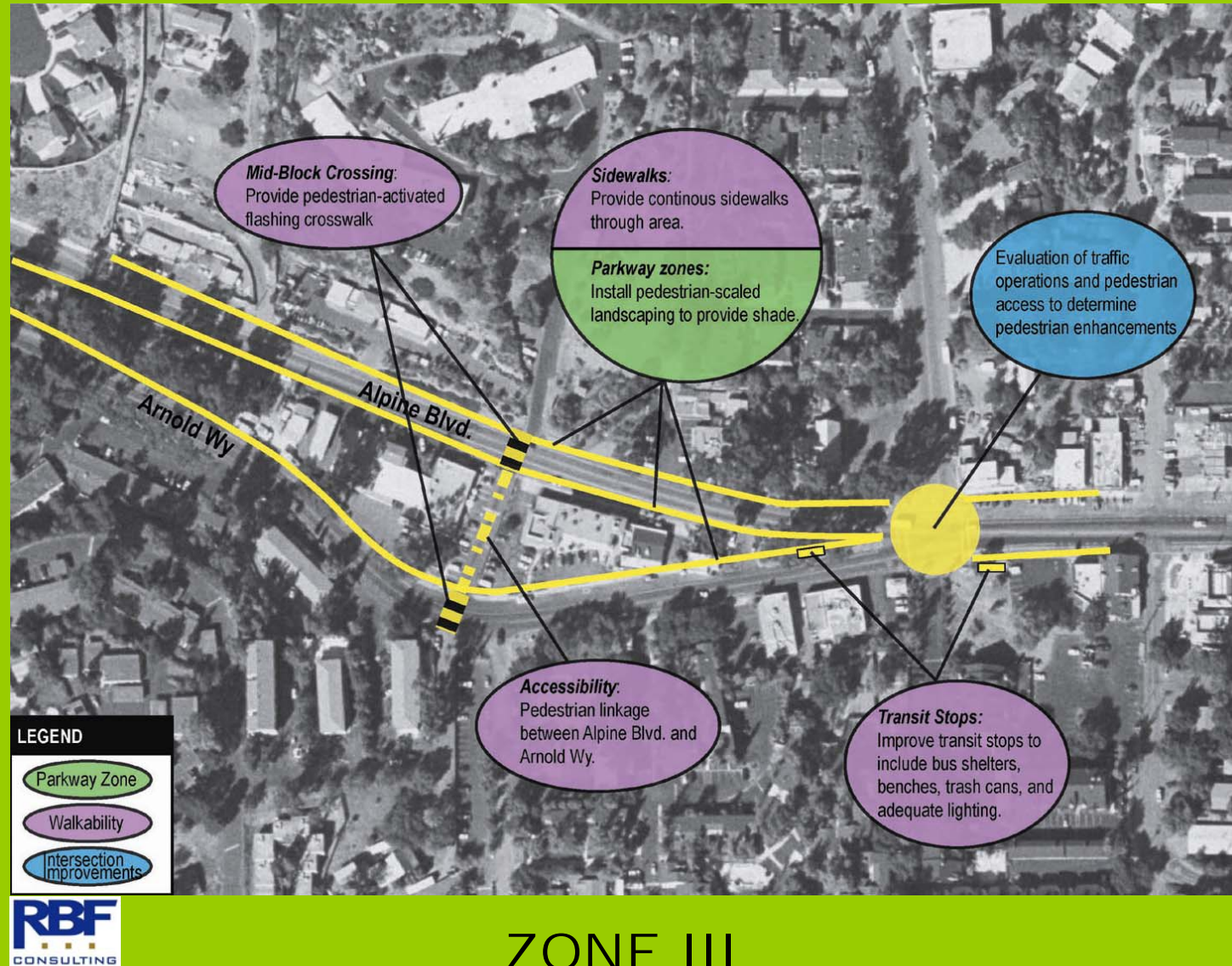
| PEDESTRIAN NEEDS AND TOOLBOX MATRIX | | | | | | | |
|-------------------------------------|--|--|--|---|---|---------------------------|---|
| LOCATION | PEDESTRIAN NEEDS | IMPROVEMENT OPPORTUNITIES | TOOLBOX | | | | |
| | | | Parkway Zones | Walkability | Traffic Calming | Intersection Improvements | |
| III | Zone III | | | | | | |
| | ⑨ Alpine Boulevard between Boulders Road and W. Victoria Drive | Sidewalks begin and end intermittently. Need for continued pedestrian access or protection and landscaping to provide shade. Measures to encourage pedestrians to cross in crosswalks and avoid jaywalking. | Provide continuous sidewalks along Alpine Boulevard. Install pedestrian-scaled landscaping to provide shade and a buffer from traffic. Provide mid-block crossings on Alpine Blvd and Arnold Way with a pedestrian-activated flashing crosswalk. |  |  | | |
| | h Alpine Boulevard west of West Victoria Drive | Clearly delineated pedestrian crossings at five-way intersection. Curb corners are unpaved or in poor conditions. Utility boxes on northwest corner are an obstacle for pedestrians. No sidewalks around intersection. | Evaluate traffic operations and pedestrian access to determine pedestrian enhancements at the intersection of Alpine Blvd and W. Victoria Drive. Improve transit stops to include bus shelters, benches, trash cans, and adequate lighting. | |  | |  |

Figure 4 ZONE III PEDESTRIAN CONCEPT PLAN – ALPINE



E. ZONE IV PEDESTRIAN NEEDS AND RECOMMENDED IMPROVEMENTS

Existing Pedestrian Needs:

- ♦ Roadways with posted school zones
- ♦ Continuous sidewalks with shade for pedestrians
- ♦ Separation buffer between roadway and sidewalk
- ♦ Safe pedestrian crossing opportunities at Tavern Road

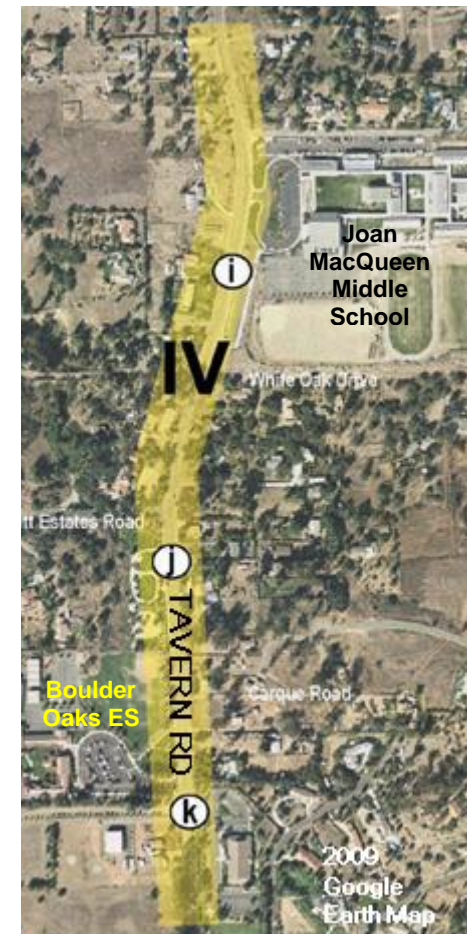
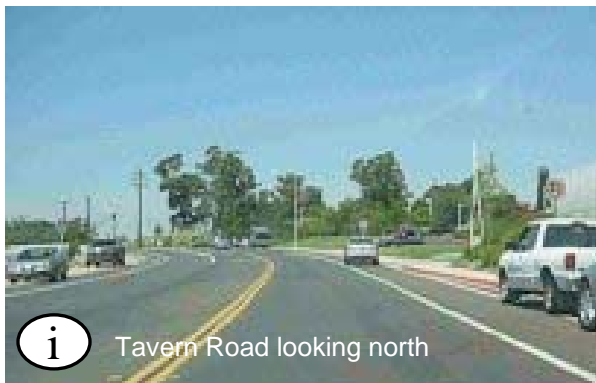


Table 4 PEDESTRIAN NEEDS AND TOOLBOX MATRIX FOR ZONE IV – ALPINE









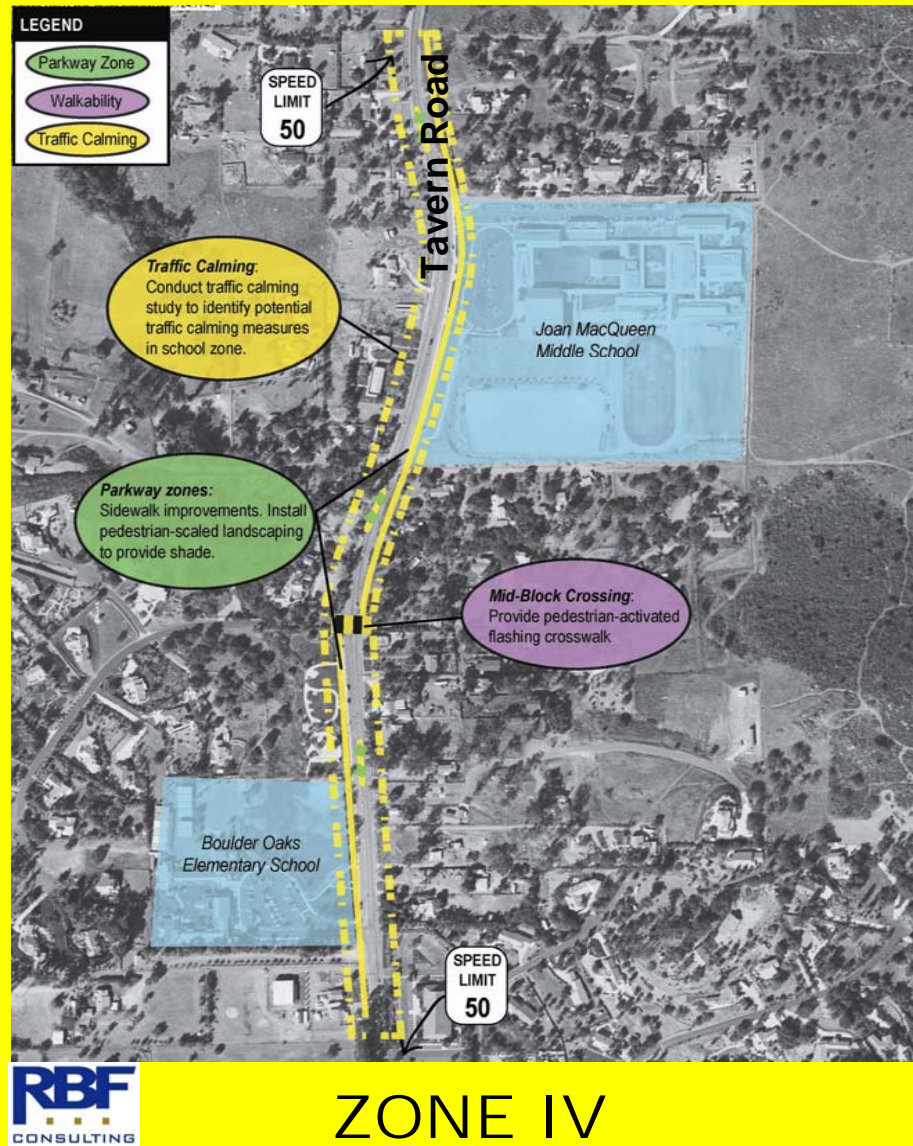
| PEDESTRIAN NEEDS AND TOOLBOX MATRIX | | | | | | | |
|-------------------------------------|---|---|---|---|--|--|--|
| LOCATION | PEDESTRIAN NEEDS | IMPROVEMENT OPPORTUNITIES | TOOLBOX | | | | |
| | | | Parkway Zones | Walkability | Traffic Calming | Intersection Improvements | |
| IV | Zone IV | | | | | | |
| | (i) Tavern Road at Joan MacQueen Middle School | Continuous sidewalks north of school site. No sidewalk on west side of street in front of school. Posted sign but marked pedestrian crossings are needed. Utility poles on the east-side sidewalk, south of school site, provide an obstacle for pedestrians. School zone surrounded by 50 MPH zones. | Conduct traffic calming study to identify potential traffic calming measures in school zone. Provide continuous sidewalks and install pedestrian-scaled landscaping to provide shade and a buffer from traffic. |  |  |  | |
| | (j) Tavern Road south of DeWitt Estates Road | Pedestrian crossing access between MacQueen Middle School and Boulder Elementary. Provision of shade along pedestrian ROW. Sidewalk on west side of street, north of park. | Provide continuous sidewalks and install pedestrian-scaled landscaping to provide shade and a buffer from traffic. Provide mid-block crossing and pedestrian-activated flashing crosswalk at DeWitt Estates Road. |  |  |  | |
| | (k) Tavern Road at Boulder Oaks Elementary School | School zone surrounded by 50 MPH zones. Continuous sidewalk on west side, which currently ends just south of school site, discontinuing pedestrian access. | Conduct traffic calming study to identify potential traffic calming measures in school zone. Provide continuous sidewalks and install pedestrian-scaled landscaping to provide shade and a buffer from traffic. | |  |  | |

Figure 5 ZONE IV PEDESTRIAN CONCEPT PLAN – ALPINE



IV. PRIORITY PROJECTS

Although there are no funds associated with this SANDAG-sponsored contract that would cover design or construction costs at this time, having the identified projects available will streamline future opportunities to compete for County, SANDAG, state, and federal funding opportunities.

On Thursday, June 26, 2008, a presentation on the pedestrian needs and recommended improvements was provided to the Alpine Community Planning Group (see Section III). The Alpine Community Planning Group identified the following as high priority projects:

Zone 1 – Provide a midblock pedestrian-activated flashing crosswalk on Alpine Boulevard at the Alpine Elementary School.

Zones I, II, III, IV – Provide continuous sidewalks throughout. Widen sidewalks to allow for landscaping that provides a buffer from traffic. Conduct a traffic calming study to identify improvements on Alpine Boulevard from South Grade/East Victoria to Tavern Road.

Zone IV – Conduct a traffic calming study to identify potential improvements in school zones (Joan MacQueen & Boulder Oaks) on Tavern Rd.

Because a County Capital Improvement Project was already planned for Alpine Boulevard, the Pedestrian Area Plan addressed pedestrian needs along Tavern Road, along with the midblock crossing on Alpine Boulevard, which would not necessarily be included in the Capital Improvement Program project for Alpine Boulevard.

The two projects from the Pedestrian Concept Plans identified as Priority Projects include:

- ♦ Alpine Boulevard midblock pedestrian crossing between the Alpine Community Center and Alpine Creek Shopping Center
- ♦ Pedestrian improvements along Tavern Road near Joan McQueen Middle School and Boulder Oaks Elementary School

Preliminary cost estimates have been prepared for these projects, found in the following pages of this document.

The cost estimates are intended to provide a general order of magnitude cost for the purpose of evaluating implementation potential and pursuit of funding sources. Improvement items and quantity takeoffs are based on the conceptual plans provided within this Pedestrian Area Plan and gross measurements done in the field or from aerial mapping.

Since these estimates are preliminary in nature and based on a conceptual plan they shall not be construed to represent actual construction costs. Final quantities and construction costs are subject to change, which would occur following detailed analysis, accurate base maps, preliminary design by a civil engineer, and evaluation of potential impacts to traffic by a traffic engineer. Final engineering design may further change the quantities and construction costs.

Any costs for additional rights of way/easement acquisition, environmental mitigation, final engineering design, engineering survey, and other soft costs/development fees are not included. Drainage facilities for conveyance, detention and water quality control are also not included in these estimates.

Since the preparer of these cost estimates has no control over the cost of labor, materials, equipment, contractors' method of determining unit prices, competitive bidding or market conditions, each cost estimate should be considered an "Opinion of Probable Construction Cost" and is made on the basis of the preparer's experience and represents their best judgment as design professionals familiar with the construction industry. Preparer does not guarantee that proposals, bids, or the actual construction cost will not vary from these cost estimates.

A. ALPINE BOULEVARD MID-BLOCK PEDESTRIAN CROSSING AT ALPINE COMMUNITY CENTER

Existing Conditions: Several land uses, including two shopping centers, the Alpine Community Center, and Alpine Elementary School, are located along Alpine Boulevard east of



Tavern Road. This segment is currently a two-lane roadway with a center left-turn lane and intermittently discontinuous sidewalks on both sides of the street. The nearest crosswalk is located at the intersection of Alpine Boulevard and Tavern Road, which is over 650 feet west

of the community center. The proximity of the mixed uses and users provides an opportunity to promote pedestrian activity in the area. However, walkability is impaired by the lack of continuous sidewalks and the inability to cross the street, often resulting in dangerous and illegal pedestrian crossings.

The existing intermittent sidewalk patterns along both sides of the street create a discontinuous pedestrian path. The sidewalk on the south side of the road terminates just east of the shopping center. The sidewalk in front of the community center and Alpine Elementary is also discontinuous or lacking. These conditions force pedestrians to either walk within the vehicular travel lane next to moving traffic or illegally cross the street to walk along the sidewalk on the opposite side of the street. A mid-block crossing between



the land uses would link the segments of completed sidewalk for the pedestrian.

Project Description: The project includes installation of a pedestrian activated mid-block crossing between the Alpine Community Center and the Alpine Creek Shopping Center. This crossing would provide a pedestrian linkage between the adjacent land uses and would connect the existing intermittent sidewalks. Providing a link between the existing sidewalk segments discourages pedestrians from walking within the vehicular travel way where sidewalks are currently absent and would reduce the amount of illegal pedestrian crossings in the area.

The mid-block pedestrian crosswalk includes an overhead flashing beacon that is activated upon pedestrian demand. Therefore, the disruption to traffic would only occur when pedestrians are present. The crossing is proposed to include ladder striping in addition to the flashing beacon to make the crosswalk clearly visible to drivers.

Installation of continuous sidewalk along this segment is planned as part of a proposed Capital Improvements Plan project. During the interim period, the proposed mid-block crosswalk would also include a curb extension on both sides of the roadway to help reduce the crossing distance, minimize exposure time, and increase visibility of the pedestrian.

[See Table 5: Cost Estimate for details.]

Table 5: COST ESTIMATE – ALPINE BOULEVARD MID-BLOCK PEDESTRIAN CROSSING AT ALPINE COMMUNITY CENTER
For Planning Purposed Only

| Item Description | Qty. | Unit | Unit Cost (\$'s) | Amount | Subtotal | Notes & Assumptions ^{1,2} |
|--|------|------|------------------|----------|-----------------|---|
| Alpine Boulevard -- Mid-block crossing in vicinity of Elementary School | | | | | | |
| Pedestrian Infrastructure | | | | | \$85,800 | |
| Curb Extension (LF curb, SF Concrete) ³ | 2 | EA | \$6,000.00 | \$12,000 | | One on each side of roadway; assumes 6' wide by 8' deep for estimate purposes until CIP continuous sidewalk is constructed. |
| Crosswalk Pedestrian Head Countdowns | 2 | EA | \$1,000.00 | \$2,000 | | One in each direction |
| Crosswalk Striping | 1 | EA | \$600.00 | \$600 | | Ladder striping, high visibility |
| Pedestrian Push Button Treatments (pedestrian activated flashing lights when mid-block crossing is in use) | 2 | EA | \$18,000.00 | \$36,000 | | Includes ped push button pole, push button assemblies with signs, pole mounted control unit, auxiliary equipment, ped push button control unit) |
| Flashing Beacon | 2 | EA | \$12,000.00 | \$24,000 | | Includes pole, mast arm, beacon heads, signs |
| Signage | 2 | EA | \$400.00 | \$800 | | Indicating Ped Crossing, etc. |
| Wheelchair Ramps (w/ warning surface half domes) | 2 | EA | \$4,000.00 | \$8,000 | | |
| Yield Lines | 2 | EA | \$200.00 | \$400 | | |
| Pavement Markings | 4 | EA | \$500.00 | \$2,000 | | Indicating Ped Crossing, etc. |
| Miscellaneous Improvements | | | | | \$1,700 | |
| AC Pavement Removal | 100 | SF | \$7.00 | \$700 | | For curb extension areas |
| Sawcut Existing AC | 100 | LF | \$10.00 | \$1,000 | | For curb extension areas |

1 – Unit Costs based on City of San Diego Unit Price List, January 2009; however, these costs were doubled to reflect previous experience with pedestrian improvement projects.

2 – All items listed include installation costs.

3 – Design of curb extensions must consider turn radii of fire trucks and other large vehicles

SF = Square Foot

EA = Each

LF = Linear Foot

Construction Subtotal: \$87,500

25% Contingency **\$21,875**

Total Construction Cost: \$109,375

Mobilization (10%): **\$10,938**

Survey (2%): **\$2,188**

Design (15%): **\$16,406**

Total Cost Estimate for Improvements \$139,000

B. IMPROVEMENTS ALONG TAVERN ROAD SCHOOL ROUTES

Existing Conditions: Joan MacQueen Middle School and Boulder Oaks Elementary School are located along Tavern Road, within one-half mile north of South Grade Road. The schools are less than one-quarter of a mile apart on opposite sides of the street. A pocket park is located just north of Boulder Oaks Elementary School on the west side of Tavern Road, conveniently located between the two schools. With the exception of the existing sidewalks located along the immediate, single-sided frontage of each school, there are no sidewalks surrounding the area. The sidewalks in front of each school terminate north and south of the school property lines and no sidewalk is provided on either side of the street between the two schools. Therefore, pedestrians walking on Tavern Road are forced to either walk within the unpaved shoulder next to moving traffic or illegally cross the roadway to walk along the sidewalk on the opposite side of the street.



Tavern Road is designated as a 25 mile per hour school zone near the schools. Otherwise, north and south of the school zone, the posted speed limit is 50 miles per hour. When school is not in session, vehicles traveling along Tavern Road continue at the 50 mile per hour speed limit range. Due to the intermittent pattern of the existing sidewalks and the lack of a mid-block

crossing, pedestrians often cross the street without a crosswalk or traffic signal.

Project Description: The project includes construction of a sidewalk, installation of a mid-block pedestrian activated crosswalk, and the addition of street trees to the pedestrian zone. The proposed construction of the sidewalk entails a concrete sidewalk, plus curb and gutter, on the east side of Tavern Road from Greenacres Road to DeWitt Estates Road. The mid-block pedestrian activated crosswalk is proposed to be installed in front of the park between the two schools, and would include a flashing beacon to alert motorists of the crosswalk.

Towards Joan MacQueen Middle School on the east side of Tavern Road, improvements would include a planting strip for shade trees, with disintegrated granite as a ground cover between trees. The shade trees will provide pedestrians with protection from the weather elements and serve as a buffer between the pedestrian and vehicular traffic. Trees would be installed between roadway and existing sidewalk, taking into consideration existing drainage ditches and available right-of-way in the area. On the west side of Tavern Road along the existing park, the project proposed the installation of additional shade trees, as possible within existing topography conditions. These proposed improvements would increase the safety, accessibility, and visibility of pedestrians in the area by providing a more direct and protected route.

[See Table 6: Cost Estimate for details.]

Table 6: COST ESTIMATE – IMPROVEMENTS ALONG TAVERN ROAD SCHOOL ROUTES (Page 1 of 2)

For Planning Purposed Only

| Item Description | Qty. | Unit | Unit Cost (\$'s) | Amount | Subtotal | Notes & Assumptions ^{1,2} |
|---|-------|------|------------------|-----------|------------------|--|
| Tavern Road School Route -- 1,760 LF on Tavern Road (east side) & 45 LF on Tavern Road (west side) | | | | | | |
| Pedestrian Infrastructure | | | | | \$392,620 | |
| Concrete Sidewalk (5 ft wide) | 9,025 | SF | \$16.00 | \$144,400 | | |
| Concrete Curb and Gutter | 1,805 | LF | \$44.00 | \$79,420 | | |
| Five-foot wide Decomposed Granite Area | 4,875 | SF | \$16.00 | \$78,000 | | For portion of road, east side |
| Pedestrian Push Button Treatments (pedestrian activated flashing lights when mid-block crossing is in use) | 2 | EA | \$18,000.00 | \$36,000 | | Includes ped push button pole, push button assemblies with sings, pole mounted control unit, auxiliary equipment, ped push button control unit) |
| Flashing Beacon | 2 | EA | \$12,000.00 | \$24,000 | | Includes pole, mast arm, beacon heads, signs |
| Signage | 2 | EA | \$400.00 | \$800 | | Indicating Ped Crossing, etc. |
| Wheelchair Ramps (w/ warning surface half domes) | 2 | EA | \$4,000.00 | \$8,000 | | Located at mid-block crossing |
| Yield Lines | 2 | EA | \$4,000.00 | \$8,000 | | Located at mid-block crossing |
| Pavement Markings | 4 | EA | \$500.00 | \$2,000 | | Indicating Ped Crossing, etc. |
| Concrete Driveways | 5 | EA | \$2,400.00 | \$12,000 | | Based on 20' X 5' concrete driveway. |
| Pedestrian Amenities | | | | | \$115,000 | |
| 24" Box Trees | 50 | EA | \$500.00 | \$25,000 | | Trees planted 30' on center; install in new planting strip adjacent to travelway or alongside existing sidewalk in existing landscape areas adjacent to middle school and community park |
| Tree Maintenance (for 60 days) | 50 | EA | \$400.00 | \$20,000 | | |
| Irrigation | 1,500 | LF | \$20.00 | \$30,000 | | |
| Tree Guards (Powder Coated) | 50 | EA | \$800.00 | \$40,000 | | |
| Miscellaneous Improvements | | | | | \$30,685 | |
| AC Pavement Removal | 1,805 | SF | \$7.00 | \$12,635 | | |
| Sawcut Existing AC | 1,805 | LF | \$10.00 | \$18,050 | | |

Table 6: COST ESTIMATE – IMPROVEMENTS ALONG TAVERN ROAD SCHOOL ROUTES (Page 2 of 2)

1 – Unit Costs based on City of San Diego Unit Price List, January 2009; however, these costs were doubled to reflect previous experience with pedestrian improvement projects.

2 – All items listed include installation costs.

SF = Square Foot

EA = Each

LS = Lump Sum

LF = Linear Foot

Construction Subtotal: \$538,305

25% Contingency **\$134,576**

Total Construction Cost: \$672,881

Mobilization (10%): **\$67,288**

Survey (2%): **\$13,458**

Design (15%): **\$100,932**

Total Cost Estimate for Improvements \$855,000